



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
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January 19, 2007

Mr. Kevin D. Bazzell
Richland Operations Office
United States Department of Energy
P.O. Box 550, MSIN: A3-04
Richland, Washington 99352

Re: Status of Closure Activities for the 1325-N Liquid Waste Disposal Facility (LWDF)

References: See page 4

Dear Mr. Bazzell:

This letter is written in response to verbal requests by Mr. Kent Westover, United States Department of Energy (USDOE)-Richland (RL), to evaluate the "Certification of Closure for the 1325-N Liquid Waste Disposal Facility" (Reference 1). The purpose of this letter is to summarize the Department of Ecology's position on the status of the 1325-N LWDF unit.

Ecology, USDOE-RL (Owner) and Washington Closure Hanford (Operator) representatives have had informal discussions about 1325-N LWDF since we received the letter referenced as 1. The focus of those discussions is the lack of a comprehensive groundwater monitoring plan to address groundwater protection standards for the 1301-N LWDF, the 1324-N/NA percolation pond and surface impoundment, the 1325-N LWDF, the 100-NR-1 operable unit unplanned releases, the 100-NR-2 groundwater operable unit monitoring needs, and any Atomic Energy Act monitoring needs^a. We understand that preparation of a single groundwater monitoring plan is pending contractual direction from USDOE-RL to Fluor Hanford, Inc.

We are in the process of renewing the Hanford Sitewide Resource Conservation and Recovery Act (RCRA) Permit. The Owner/Operator has had the opportunity to see an updated unit-specific permit for the 1325-N LWDF unit containing draft RCRA groundwater permit conditions. Note that due to releases from the unit negatively affecting groundwater quality,

^a A single, integrated monitoring plan that would satisfy multiple regulatory requirements is an approach consistent with the Tri-Parties' Site-Wide groundwater strategy (Reference 2).

Mr. Kevin D. Bazzell

January 19, 2007

Page 2

permit conditions were drafted to specifically place the 1325-N LWDF unit in a compliance monitoring program of Washington Administrative Code (WAC) 173-303-645(10), rather than a detection monitoring program of WAC 173-303-645(9).

Deficiencies in the Certification of Closure

The letter of Reference 1 includes an Independent Registered Professional Engineer's (P.E.) Closure Certification Report. We noted the following deficiencies in the certification of closure:

1. The conclusion of the P.E.'s report states that "... the closure was completed in accordance with the approved closure plan." We noted that the approved closure plan refers to closure activities that will be developed (Reference 3 [pgs. A-19 & A-20]):

"The other closure activities are not well defined for these sites at present but will be developed during the remedial design phase."

The certification of closure is therefore deficient because these other closure activities are not described, nor is their completion discussed.

2. The certification of closure is deficient because it does not specifically address data deficiencies identified in the Closure Plan (Reference 3 [pg. A-21]):

"Mercury is the only other metal that is included in the contaminants of concern (COCs), but no data from the boreholes at 1301-N and 1325-N are available to evaluate the presence or absence of this analyte in vadose zone soils."

and

"Evaluation of nitrate concentrations in the soil is similarly limited because of a paucity of data ..."

3. The certification of closure is deficient because it does not document execution of the Hanford Past-Practice Strategy (HPPS)(Reference 4) as it relates to the 1325-N LWDF unit. The HPPS is a Tri-Party Agreement (TPA) primary document. The requirements in the HPPS have been applied to 100-N Area in other TPA primary documents (Reference 5 [Figure 1-4])(Reference 6 [Figure 1-4]).

The HPPS requires evaluation of accumulated data to conclude whether it meets the minimum needs for risk assessment and final remedy selection. The certification of closure for the 1325-N LWDF does not document that the evaluation has been done. Evaluation of accumulated data under the HPPS may lead to performing and completing field investigations. If additional field investigations are necessary, then closure certification will have to be based on both the existing data and any additional data.

Mr. Kevin D. Bazzell

January 19, 2007

Page 3

We noted that characterization of releases from 1325-N LWDF and 1301-N LWDF was based on just six boreholes (Reference 3 [pg. A-21]), and "Additional sampling that was performed in 1998" (Reference 3 [pg. A-22]). The Owner/Operator should evaluate whether the accumulation of previous sampling, plus the sampling included in the 1325-N LWDF Cleanup Verification Package (CVP), is adequate to characterize the nature and extent of releases from the 1301-N LWDF and 1325-N LWDF units.

4. The certification of closure is deficient because it does not address all dangerous waste constituents present at the 1325-N LWDF. The P.E. report refers to the CVP as the evaluation of soil data to show that the closure plan performance standards were met. While mercury and nitrate meet the clean closure performance standards for this site, these were the only nonradiological COCs that were evaluated for this closure effort. Our split soil data from the shallow zones of the 1325-N LWDF were analyzed for the eight RCRA metals. The samples were shown to contain levels of the omitted contaminants of potential concern (COPCs): arsenic, barium, chromium, lead, and selenium.
5. The certification of closure is deficient because it does not document compliance with WAC 173-303-645(1)(a)(ii) or, alternatively, WAC 173-303-645(e). We drafted unit-specific permit conditions to place the 1325-N LWDF unit in a compliance monitoring program (see above), due to releases from the unit which negatively affected groundwater quality:
 - COPCs that were listed in the 100-NR-1 Record of Decision (and subsequently omitted from the 100-NR-1) COC list have been detected in monitoring wells, that are downgradient of both 1325-N and 1301-N LWDF, at higher concentrations than in upgradient monitoring wells (i.e., nitrate).
 - Groundwater in downgradient near-river wells exceeds Aquatic Water Quality Criteria for cadmium, hexavalent chromium and zinc. These COPCs were omitted from the COC list addressed in the Cleanup Verification Package for 1325-N LWDF.

Due to: the close proximity of the 1325-N LWDF, the 1301-N LWDF, 100-N Area solid waste management units, the current configurations of the various groundwater monitoring networks, and current groundwater monitoring programs: the reported groundwater contamination downgradient to the 1301-N LWDF can not be individually attributed to the 1325-N LWDF or 1301-N LWDF. However, we attribute groundwater contamination occurring between the 1325-N LWDF and the 1301-N LWDF to releases from the 1325-N LWDF. Due to this and due to the omission of COPCs from the COC list in the Cleanup Verification Package, we have been unable to confirm USDOE's position that RCRA closure performance standards (i.e., soil cleanup and groundwater protection standards) were met for the 1325-N LWDF.

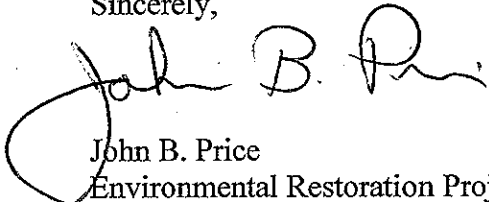
Mr. Kevin D. Bazzell

January 19, 2007

Page 4

If you have any questions, contact me at 509-372-7921.

Sincerely,



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Environmental Restoration Project Manager
Nuclear Waste Program

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cc: Kent Westover, USDOE
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Todd Martin, HAB
Ken Niles, ODOE
Administrative Record: 1325-N LWDF, 1301-N LWDF
Environmental Portal
HF Gen Op File: 1325-N
RCRIS

References:

1. Letter 05-AMRC-0214, Certification of Closure for the 1325-N Liquid Waste Disposal Facility (LWDF), dated April 19, 2005.
2. DOE/RL-2002-59, 2002a, *Hanford Site Groundwater Strategy: Protection, Monitoring and Remediation*.
3. DOE/RL-96-39, Rev. 1, 2002b, *100-NR-1 Treatment, Storage and Disposal Units Corrective Measures Study/Closure Plan, Appendix A: 1301-N and 1325-N Liquid Waste Disposal Facilities Closure Plan*.
4. DOE/RL-91-40, 1991, *Hanford Past-Practice Strategy*.
5. DOE/RL-90-22, 1990, *RCRA Facility Investigation/Corrective Measures Study Work Plan for the 100-NR-1 Operable Unit*, Hanford Site, Richland, Washington.
6. DOE/RL-93-80, 1993, *Limited Field Investigation Report for the 100-NR-1 Operable Unit*.